

ABSTRACT OF THE DISCLOSURE

5 An air conditioning system has a refrigerant cycle, a coolant cycle, a refrigerant/coolant heat exchanger, coupling these cycles so as to transfer heat, and valve for operating mode-dependent control of the refrigerant flow, whereby the air conditioning system can be operated not only in air conditioning mode but at least also in a heat pump or reheat mode. An internal combustion engine exhaust gas/coolant heat exchanger is connected upstream in series to the refrigerant/coolant heat exchanger in the coolant cycle at least in the heat pump mode; and/or in the reheat operating mode the refrigerant/coolant heat exchanger functions as a condenser/gas cooler, connected upstream in series on the coolant side to the supply air/coolant heat exchanger. In addition or as an alternative, a drying operating mode can be provided for drying the supply air/refrigerant heat exchanger with reversed air conveying direction.